

PHYSICAL ACTIVITY OF ADULT WOMEN IN GREECE. DIFFERENCES BETWEEN URBAN AND RURAL RESIDENTS

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Abstract

The aim of the present study was to determine habitual physical activity differences between adult women residing in an urban area and adult women residing in a rural area in Greece. Additionally differences in physical activity of high intensity, moderate intensity physical activity as well as walking were also assessed. Subjects in this study were 198 adult women (41.2 ± 8.3 years), 98 of them resided at the city of Arta and 100 resided in villages in the respective prefecture. Physical activity was recorded with the long version of the self administered International Physical Activity Questionnaire (Craig et al., 2003). The dependent variables that were included in data analysis included the total score of physical activity, the score of high intensity physical activity, moderate intensity physical activity and walking. "Place of residence" was the constant factor used in the analysis of data. According to the results of the ANOVA Multiple Analysis of Variance a significant residence effect was reported for the factor area of residence for total physical activity score ($F_{(1,196)} = 6,075$, $p = .05$) in favor of women residing in urban districts. Additionally, according to the results of Multiple Analysis of Variance adult women residing in urban districts were significant more active in physical activity related to work ($F_{(1,196)} = 14,908$, $p = .000$) and to recreation ($F_{(1,196)} = 7,230$, $p = .008$). Women residing in rural areas scored higher in physical activity related to taking care of others and the house ($F_{(1,196)} = 83,667$, $p = .000$). No differences were detected in physical activity related to transportation ($F_{(1,196)} = 1,127$, $p = .290$). In conclusion women residing in villages in rural districts of Arta Prefecture were more active when compared to adult women residing in the city of Arta only when taking care of others or the house.

Introduction

Physical activity is associated with a reduction in all cause mortality, fatal and nonfatal total cardiovascular disease, a reduction in the incidence of obesity, type 2 diabetes mellitus, colon cancer, and osteoporosis (Kesaniemi et al., 2001). As a result, regular physical activity is strongly recommended by numerous organizations for its health benefits, including the Surgeon General's Report on physical activity and health (CDC, 1996). Despite such recommendations, fewer than 40% of adults in the Western world currently participate in regular physical activity (Seefeldt et al., 2002), suggesting an urgent need to implement interventions and programs to promote physical activity in the population. While numerous physical activity interventions or programs have been developed and evaluated, such initiatives have produced varied results, with limited impact on overall population rates of physical activity. Further research is therefore required to gain a better understanding of the predictors of physical activity (Baranowski et al., 1998, Bauman et al., 2002) as these factors may then be targeted in programs designed to promote physical activity (Sallis & Owen, 1999). Recent reviews of physical activity correlates in adults indicate that this is a multifactorial behavior influenced by demographic, biological, psychological, behavioral, social and/or cultural, and physical environmental factors (Trost et al., 2002). Among the most common correlates of physical activity are 'self-efficacy' (positive association), 'social support' (positive association), 'gender' (males engage in higher levels of physical activity than females), and 'age' (younger people are more active than older people). The purpose of this study was to determine differences in adult women's physical activity that reside in urban and rural areas in Greece.

Method

Participants

Participants in this study were 198 women aged 36.9 ± 4.5 years who volunteered to participate in this study after being informed about its content and purpose. Participants were recruited through an advertising campaign that was initiated by the Municipal Center for Sport in a Prefecture.

Instruments and Procedure

Physical activity was assessed with the use of the long self – administered version of the International Physical Activity Questionnaire (Craig et al., 2003) This long version (31 items) was designed to collect detailed information within the domains of household and yard work activities, occupational activity, self-powered transport, and leisure-time physical activity as well as sedentary activity. The data collected was summed in order to estimate the total time spent in vigorous PA, moderate intensity PA and walking and then used to estimate as a continuous variable the total weekly PA by weighting the reported minutes per week within each activity category by a MET energy expenditure estimate assigned to each category of activity. MET levels were obtained from the 2000 Compendium of physical activities to include walking (3.3 MET) moderate-intensity activities (4 MET) and vigorous-intensity activities (8 MET). Cut points were also used in order to create a categorical variable according to which PA can be characterized as high, sufficient and insufficient. Height and weight measured in order to compute body mass index (BMI) as kg/m².

Analysis of data

Analysis of data included descriptive statistics of all variables included in this study. One way analysis of Variance was conducted in order to determine the effect of district of residence on total PA score. A Manova was conducted in order to determine the effect of the factor district of residence on the dependent variables of walking, moderate intensity physical activity and high intensity physical activity. The level of significance was set at $p = .05$

Results

Physical characteristics of the participants in this study are presented in Table 1.

Table 1. Physical characteristics and physical activity score of the participants in this study M(SD).

	<i>Rural District</i>	<i>Urban District</i>	<i>Total</i>
(N)	100	98	198
Age (years)	38,7 (6,2)	36,4(5,7)	38,4 (8,5)
Weight (kg)	64,8(6,2)	64,2(6,1)	64,5(6,2)
Height (CM)	165 (4,5)	165(4,3)	165 (4,6)
BMI	23,63(1,8)	23,96 (2)	23,8(1,92)
Physical Activity (MET)	7.096 (356)	8.344(359)	8.156 (506)

According to the results of the ANOVA Multiple Analysis of Variance a significant residence effect was reported for the factor area of residence for total physical activity score ($F_{(1,196)} = 6,075$, $p = .05$) in favor of women residing in urban districts.

Additionally, according to the results of Multiple Analysis of Variance adult women residing in urban districts were significantly more active in physical activity related to work ($F_{(1,196)} = 14,908$, $p = .000$) and to recreation ($F_{(1,196)} = 7,230$, $p = .008$). Women residing in rural areas scored higher in physical activity related to taking care of others and the house ($F_{(1,196)} = 83,667$, $p = .000$). No differences were detected in physical activity related to transportation ($F_{(1,196)} = 1,127$, $p = .290$) (Table 2).

Table 2. Physical activity (PA) Scores (MET) for all the participants in this study M (SD) according to IPAQ.

	<i>Rural District</i>	<i>Urban District</i>
PA Transportation	1.592 (112)	1.423(113)
PA Work	833(240)	2.152 (242)
PA Taking care of others	7093(297)	3.222(300)
PA Recreation	1139 (121)	1603(123)

Discussion

To date, few studies have examined the determinants of physical activity in rural and urban middle aged women. Determinant studies such as ours are important as a first step in designing interventions that meet the unique needs of understudied groups. The findings in this study support that female participants residing in urban areas were more active than the ones residing in rural areas, a finding that has been previously reported by the literature (Wilcox *et al.*, 2000; Brownson *et al.*, 2000). Urban women were more active than rural women as physical activity related to work and recreation was concerned. On the contrary rural women were more active when physical activity related to taking care of others and the house was concerned. These findings may be related to the fact that women in rural areas in Greece do not often work (official employment) and at the same time perform on a daily basis numerous physical activities that are necessary for every day life (e.g. chopping wood for the fireplace, taking care of house animals and of the vegetable garden). Further research is needed to identify correlates of physical activity in different subgroups to design more efficacious interventions.

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